

La Niña Update: July 11, 2000

The following is derived from the ENSO Advisory 2000/7 issued by the Climate Prediction Center/National Centers for Environmental Prediction (NCEP) on July 11, 2000.

The large-scale oceanic and atmospheric circulation patterns continued to reflect cold episode (La Niña) conditions in the tropical Pacific during June. However, since the beginning of March several atmospheric and oceanic indices have shown a weakening of La Niña conditions. Negative SST anomalies have decreased in magnitude in the central and eastern equatorial Pacific, which has resulted in substantial increases in the Niño 3.4 and Niño 4 indices (Fig. 1). The Tahiti-Darwin SOI dropped to near zero in May and to -0.6 in June. The equatorial SOI, which continues to better reflect the ongoing La Niña condition, has also decreased, dropping from its peak of 3.2 in January to 1.2 in June. At the same time the low-level easterly anomalies in the west-central equatorial Pacific have also diminished in intensity. This evolution in both atmospheric and oceanic variables is remarkably similar to that observed during the first six months of 1999 (Fig. 2, Fig. 3).

The most recent NCEP coupled model forecasts and statistical model forecasts, as well as other available forecasts, exhibit differences in the expected evolution of the SSTs over the next 3-9 months. The NCEP coupled model forecast and the latest LDEO forecast indicate that cold episode conditions will continue to weaken during the next 3 months, followed by near-normal conditions through the end of 2000. The NCEP statistical model (CCA) forecasts weak cold episode conditions continuing through the end of 2000, with near normal condition developing in early 2001. The lack of any rapid evolution in the subsurface thermal structure and the persistence of low-level easterly anomalies over the central and western equatorial Pacific continues to support a slower decay of the cold episode conditions than is shown by the NCEP coupled model. Thus, it is likely that cold episode conditions will gradually weaken over the next 6 months and that near-normal or slightly cooler than normal conditions will be present in the tropical Pacific at the end of the year.

Weekly updates for SST, 850-hPa wind, and OLR are available on the Climate Prediction Center homepage at:

<http://www.cpc.ncep.noaa.gov> (Weekly Update).

Forecasts for the evolution of El Niño/La Niña are updated monthly in CPC's Climate Diagnostics Bulletin Forecast Forum.

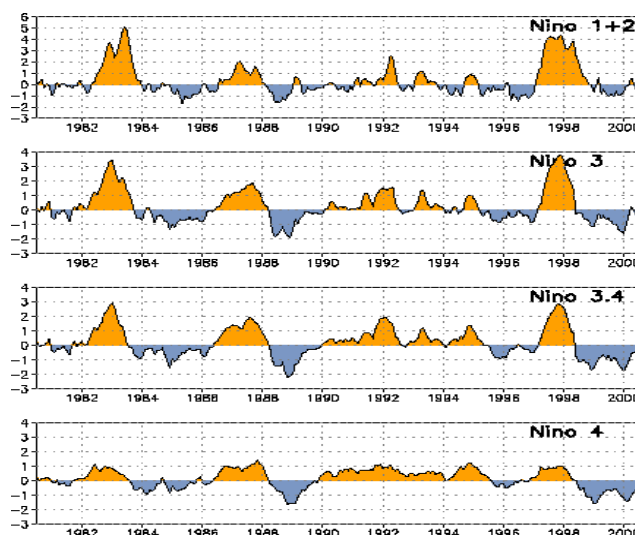


FIGURE 1. Equatorial Pacific sea surface temperature anomalies (°C) for the Niño regions. Anomalies are departures from the 1961-1990 base period means (Smith and Reynolds 1998, J. Climate, 11, 3320-3323).

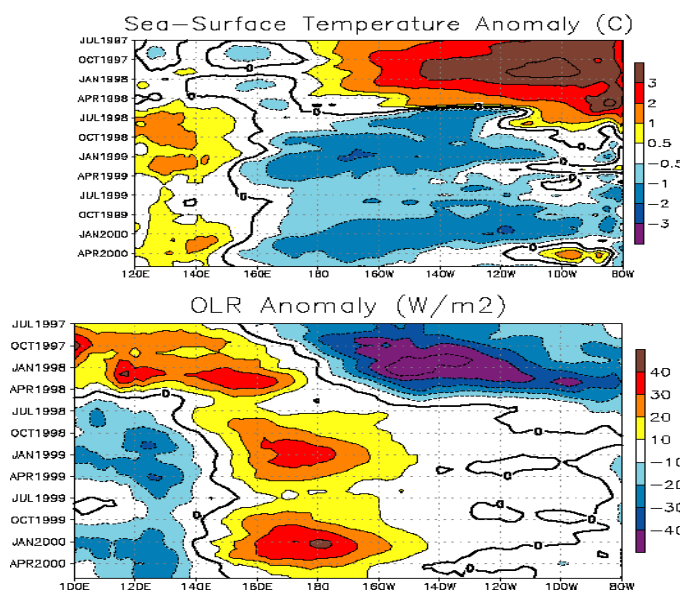


FIGURE 2. Time-longitude section of monthly anomalous sea surface temperature (top) and outgoing longwave radiation (bottom) for 5°N-5°S. Contour interval is 0.5°C (top) and 10 W m⁻² (bottom). Dashed contours indicate negative anomalies. SST anomalies are departures from the 1961-1990 base period means (Smith and Reynolds 1998, J. Climate, 11, 3320-3323). OLR anomalies are departures from the 1979-1995 base period means.

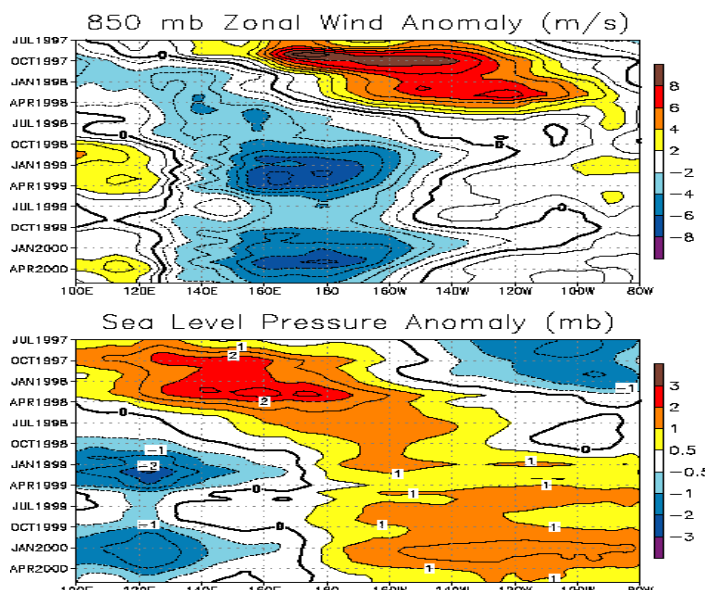


FIGURE 3. Time-longitude section of monthly anomalous 850-hPa zonal wind (top) and sea level pressure (bottom) for 5°N-5°S. The data are smoothed temporally by using a 3-month running mean average. Contour interval is 1 m s⁻¹ (top) and 0.5 hPa (bottom). Dashed contours indicate easterly anomalies (top) and negative SLP (bottom). Anomalies are departures from the 1979-1995 base period means.